

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : HONDA MOTOR CO LTD

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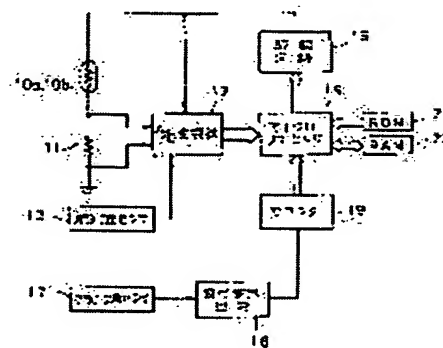
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MIENO TOSHIYUKI

54) HEATER TEMPERATURE CONTROL DEVICE OF OXYGEN CONCENTRATION SENSOR

57)Abstract:

PURPOSE: To control a concn. detection element to objective temp. even when the heat generating state of a heater changes, by setting an objective resistance value corresponding to the power consumption of the heater and applying voltage to the heater so that the resistance value of the heater becomes equal to the objective resistance value.

CONSTITUTION: A drive circuit 16 is connected to a microprocessor (MP) 15 and applies the voltage corresponding to the order of the MP 15 to a series circuit consisting of heaters 10a, 10b and a resistor 11. A ROM 21 and a RAM 22 are connected to the MP 15 as memory elements. A crank angle sensor 17 generates the pulse synchronous to the rotation of the crank shaft of an engine and the output pulse of said sensor 17 is supplied to a counter 19 through a waveform shaping circuit 18. The counter 19 measures the generation interval of the output pulse of the circuit 18 on the basis of the number of clock pulses outputted from a clock pulse generating circuit to supply the same to the MP 15 as the number-of-rotation data of the engine. By this method, a concn. detection element can be controlled to objective temp. even when the heat generating state of a heater changes.



LEGAL STATUS

Date of request for examination]

Date of sending the examiner's decision of rejection]

Kind of final disposal of application other than the
examiner's decision of rejection or application converted
registration]

Date of final disposal for application]

Patent number]

Date of registration]

Number of appeal against examiner's decision of
rejection]Date of requesting appeal against examiner's decision
of rejection]

Date of extinction of right]

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- 9.....電池素子
- 10a, 10b.....ヒータ
- 11.....電抵抗温度感
- 13.....絶縁圧センサ
- 17.....クラウンカウンタ
- 19.....カウンタ

素子を目標温度により昇降に制御することができ、よって、酸素濃度検出精度の悪化及び素子の劣化を防止することができる。

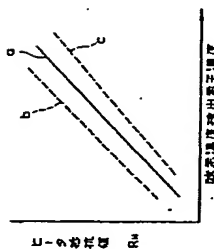
4. 図面の簡単な説明

第1図はヒータ温度と酸素濃度検出素子温度との関係を示す図、第2図はヒータ温度と酸素濃度検出素子温度との温度状態を示す図、第3図は酸素濃度検出素子温度と酸素濃度検出素子温度との関係を、第4図は本発明によるヒータ温度制御装置を用いた酸素濃度センサの酸素濃度検出素子を、第5図は本発明によるヒータ温度制御装置の構成例を示す図、第6図は第5図の装置中のマイクログロッバの動作を示すフロー図、第7図は目標温度検出特性を示す図、第8図は本発明の他の実施例を示す図である。

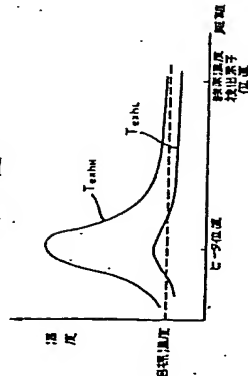
主要部分の符号の説明

- 1.....酸素イオン伝導性固体電解質材
- 2.....気体雰囲気
- 4.....大気雰囲気
- 8.....酸素ポンプ素子

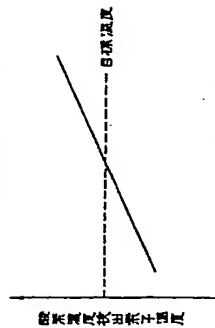
第1図



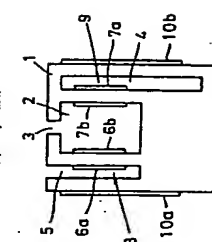
第2図



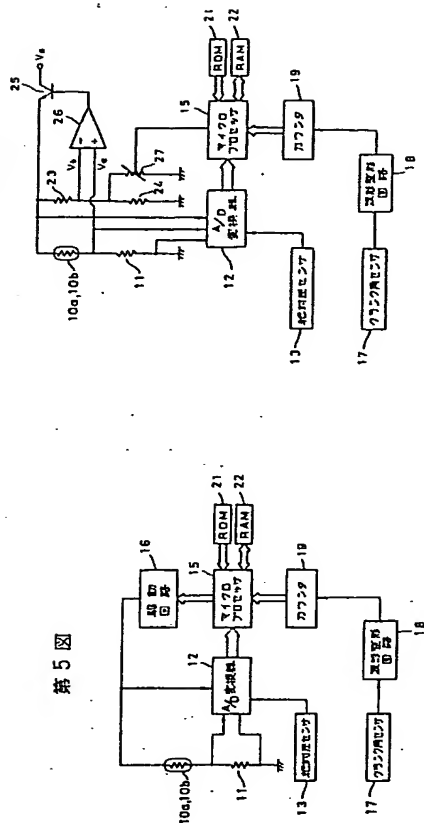
第3図



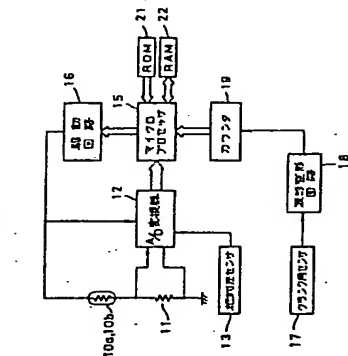
第4図



第5図

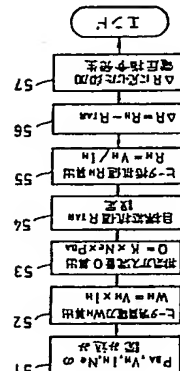


第6図



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第6図



第7図

